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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,679

02/27/2004

Hyeon-Yong Jang

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EXAMINER

A, MINH D

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,679

Applicant(s)

JANG, HYEON-YONG

Examiner

Minh D. A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 12, 13, 19-21 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 5-11, 15-18, 22-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/18/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 19-21 and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Archenhold et al (US 2003/0057888A1).

Regarding claim 1, Archenhold discloses an illumination control system comprising: a lamp unit having a load (6); a current restricting unit (microprocessor (2) and (load section)(5)) that adjusts the load (6) on the lamp unit, the current restricting unit ((microprocessor (2) and (load section)(5)) is coupled to the lamp unit ; a current sensing unit (3) for determining a total current flow though the lamp unit, wherein the current sensing unit (3) is coupled to the current restricting unit ((microprocessor (2) and (load section)(5)); and a current control unit (element 5, see figure 5) for adjusting a current supply to the lamp unit based on the total current flow. See figures 1-12, col.3, lines [0038] to col.8, lines [0072].

Regarding claim 2, Archenhold discloses the current restricting unit ((microprocessor (2) and (load section)(5)) having the load current feedback (1) for comparing a voltage at an input end of the lamp unit against a voltage and (transistor

Art Unit: 2821

(21) for selecting current from the lamp unit to the comparing the load current feedback, wherein the transistor (21) is coupled to the comparing (7) and the current sensing unit (sensor resistor R4, see figure 9). See figures 1-12.

Regarding claim 3, Archenhold discloses the (transistor (21) for directing the current from the lamp unit Load (6) to at least one of the comparing block (3) and the current sensing unit (3) for depending on at least one of a magnitude of the current from the lamp output and a time period during which the magnitude is sustained. See figures 1-12.

Regarding claim 4, Archenhold discloses the selection block comprises: a switching element; and a current restricting resistor connected to the lamp output in parallel with the switching element, the switching element configured to turn on and off based on a signal from the comparing block, such that current flows to the current sensing unit when the switching element is turned on. See figures 1-10.

Regarding claim 19, Archenhold discloses that, a current restricting resistor (R14-17 or R4) coupled to the lamp output and the second input of the comparator. See figures 8-9.

Regarding claim 20, Archenhold discloses the selection block (21) for increasing the load on the lamp unit in response to the total current flow's exceeding a predetermined magnitude for a predetermined time period. See figures 8-9.

Regarding claim 21, Archenhold discloses a first lamp and a second lamp coupled in a parallel to configuration; a first current restricting ((microprocessor (2) and (load section)(6)) subunit that is coupled to the first lamp and a second current

Art Unit: 2821

restricting (15-30) subunit that is coupled to the second lamp; a first current sensing subunit (18) that is coupled to the first lamp for determining a first current flow through the first lamp and a second current sensing (Rf) subunit that is coupled to the second lamp for determining a second current flow through the second lamp; and a current control unit (7) that sums the first current flow and the second current flow to generate a total current flow, and adjusts a current supply to the first lamp and the second lamp based on the total current flow. See figures 1-12, col.3, lines [0038] to col.8, lines [0072].

Regarding claim 25, Archenhold discloses that, the first selection block is coupled to a first summing resistor and the second selection block is coupled to a second summing resistor, wherein the first summing resistor and the second summing resistor are coupled to a feedback loop to the current control unit. See figures 5 and 8.

Regarding claim 26, Archenhold discloses an element (3) for monitoring a current output from each of a plurality of lamps; increasing a load on one of the lamps upon detecting a current output exceeding a predetermined magnitude for at least a predetermined time period; summing the current output from each of the plurality of lamps to determine a total current flow through the lamps; and a control (2) for adjusting current input to the lamps based on the total current flow. See figures 1-12, col.3, lines [0038] to col.8, lines [0072].

Regarding claim 27, Archenhold discloses a light assembly comprising a lamp unit; a current restricting unit that adjusts a load on the lamp unit, wherein the current restricting unit is coupled to the lamp unit; a current sensing unit that determines a total

Art Unit: 2821

current flow through the lamp unit, wherein the current sensing unit is coupled to the current restricting unit; and a current control unit that adjusts a current supply to the lamp unit based on the total current flow. See figures 1-12, col.3, lines [0038] to col.8, lines [0072].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being anticipated by Archenhold et al (US 2003/0057888A1) in view of Chang (US 6,285,141).

Regarding claims 12-13, Archenhold discloses the current sensor as show on figure 2, however, Archenhold does not teach that, the current sensing unit (3) comprises a diode unit (D5) coupled to the lamp unit for generating a half-wave rectified voltage at an output of the lamp unit and forwarding the half-wave-rectified voltage to the selection block and the second diode allowing current to flow out of the lamp unit and to the selection block.

Chang discloses that, the current sensing unit (6) comprises a diode unit (D5) coupled to the lamp unit for generating a half-wave rectified voltage at an output of the lamp unit and forwarding the half-wave-rectified voltage to the selection block and the

Art Unit: 2821

second diode allowing current to flow out of the lamp unit and to the selection block.

See figures 2-4, col.4, lines 28-67 to col.5, lines 1-63.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ a diode unit (D5) coupled to the lamp unit such as that suggested by Chang in the lamp's circuit of Archenhold for generating a half-wave rectified voltage at an output of the lamp unit and forwarding the half-wave-rectified voltage to the selection block, because it provides a high discharge lamps with a regulate lamp output voltage and provides a independent lamp operation.

Allowable Subject Matter

3. Claims 5-11 and 14-18 and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach that, the selection block comprises a current restricting resistor; and a transistor having a collector, a base, and an emitter, wherein the current resisting resistor and the transistor are coupled to the lamp unit in parallel, such that the collector is coupled to the lamp unit, the base is coupled to the comparing block, and the emitter is coupled to the current sensing unit recited in depending claim 5.

The prior art does not teach that, the lamp unit includes a first lamp and a second lamp coupled in a parallel configuration, the current restricting unit includes a first current restricting subunit that is coupled to the first lamp and a second current

Art Unit: 2821

restricting subunit that is coupled to the second lamp, and the current sensing unit includes a first current sensing subunit that is coupled to the first lamp and a second current sensing subunit that is coupled to the second lamp, the apparatus further comprising: a first capacitor coupled to an input to one of the lamps; and a second capacitor coupled to an input to another one of the lamps, wherein the first capacitor and the second capacitor control magnitudes of current flowing into the respective lamps recited in dependent claim 14.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mirskiy et al (US 5,973,455) and Lin et al. (US 6,396,722) are cited to show a high efficiency adaptive DC/AC converter.

Art Unit: 2821

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.



TUYET VO
PRIMARY EXAMINER

Examiner

Minh A

Art unit 2821

10/12/05